

## Notes on *Callistemon* in East Gippsland, Including the Description of *C. genofluvialis* sp. nov.

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### Abstract

*Callistemon genofluvialis* W. Molyneux is described and illustrated. Its relationship with *Callistemon sieberi* F. Muell., *C. pallidus* (Bonpl.) DC. and *C. forresterae* W. Molyneux is discussed. Further information is provided about the recently described species *C. forresterae* W. Molyneux and *C. kenmorisonii* W. Molyneux, and about *C. subulatus* Cheel.

### Introduction

When I described *Callistemon forresterae* Molyneux from the Genoa River (Molyneux 1993), I indicated that other taxa awaited further investigation in this region. One of these taxa is now described.

*Callistemon genofluvialis* is a rheophytic chasmophytic shrub or chasomophyte (when growing well above normal water levels), and is currently known from a population of c. 10 plants on and above the west bank of the Genoa River, c. 0.5 km downstream of the New South Wales-Victorian border.

### Taxonomy

*Callistemon genofluvialis* W. Molyneux, sp. nov.

Species sine affinitate proxima, sed in habitu et dispositione foliorum *Callistemoneni sieberi* et forma localis *Callistemonis pallidus* simulans aliquantum sed ab ambabus floribus rufo-purpureis et ab speciebus aliis foliis olentibus *Eucalypto* differt; a *Callistemone forresterae* in habitu multicauli, ramulis effusis vel cernuis, foliis majoribus et petiolis tortis plerumque, conflorescentiis brevioribus et latioribus, floribus rufo-purpureis differt.

*Type*: Victoria, East Gippsland, Genoa R., c. 0.5 km downstream of the New South Wales border, 37°15'S, 149° 26'E, on west bank, *W.M. Molyneux and S.G. Forrester s.n.*, xi.1995 (holotype MEL; isotypes BRI, CANB, NSW).

Spreading *shrub*, 2–2.5 m tall, 1.8–2.5 m wide, multi-stemmed from a swollen root-stock; ends of branches weeping, new growth sericeous white soon becoming glabrous, mid-green. *Bark* tight, papery, not dense, with small loose patches. *Leaves* dense or open and irregularly arranged, spreading (up to 60°) to stems, petioles mostly straight,

occasionally twisted, upper leaf surface mainly facing stems, lamina flexible, older leaves coriaceous, lanceolate to broadly lanceolate, often asymmetrical, mucronate, (17–)22–48(–80) mm long, (3–)4–6(–8.5) mm wide, mid-vein raised on both surfaces, margins thickened, secondary venation faint but discernible on upper surface, oil glands dark, numerous, obvious on both surfaces, emitting a peppermint-eucalyptus-like aroma when crushed. *Conflorescence* usually distally frondose, mostly drooping or less often horizontal to slightly ascending, 24–66-flowered, 60–105 mm long, 50–68 mm wide, rachis white villous, reducing with age to irregular inclined white patches; bracts deciduous early, chaffy, sericeous on the back, eventually mostly only in the bottom half, convex, broadly subulate, c. 10–15 mm long, 2–4 mm wide. *Perigynium* white villous early, soon becoming less so or irregularly bearded. *Sepals* c. 1.5 mm deep and 1.8 mm wide, chaffy, woolly, margin ciliate. *Petals* c. 4 mm deep and 2.5 mm wide, green, margin irregularly ciliate. *Stamens* 20–30 per flower, 12–19 mm long, not all fertile, red/purple (RHS 58A), anthers red/purple, gland clear, not conspicuous. *Ovary* hoary, obscured, c. 2 mm across, c. 0.5 mm below rim; style nearly straight or variously curved, often very reduced and c. half the length of, or up to c. 10 mm longer, than stamens, reddish-purple, 6–29 mm long, gradually broadening behind the shallowly domed style end. *Fruit* retained for at least 11 years, squat, eventually truncate, 5–6 mm long, c. 6–9 mm wide, closely but not densely packed on stems, orifice c. 2–3 mm wide, 1–1.5 mm deep. (Fig. 1)

All measurements taken from live material in the wild and in cultivation.

#### *Distribution and Habitat*

*Callistemon genofluvialis* is presently known from a population of c. 10 plants, limited to the west side of the Genoa River on Ordovician sandstones (Douglas 1974). It

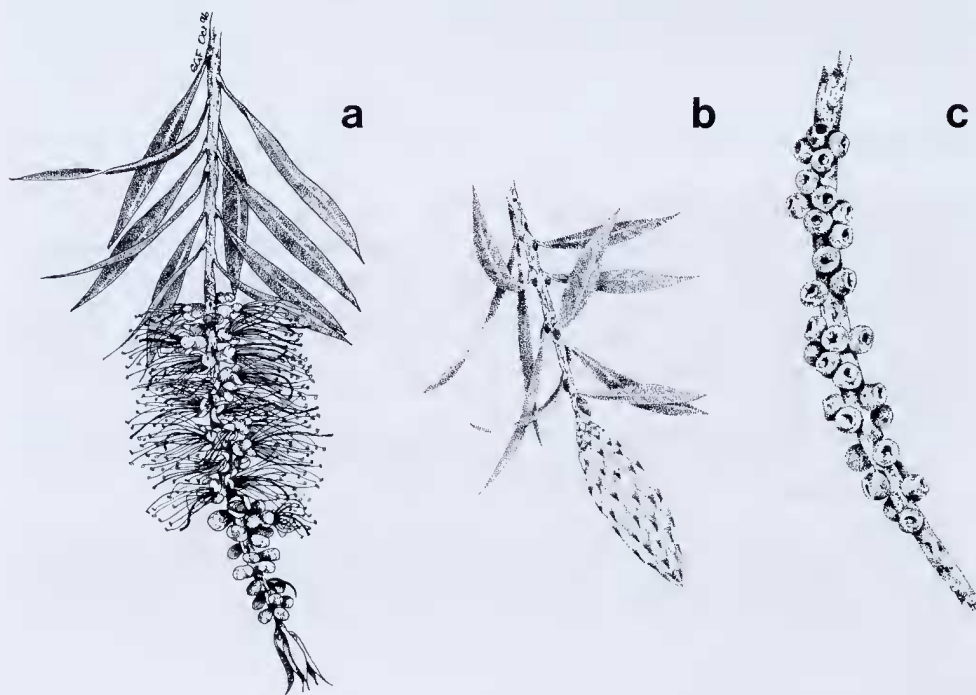


Fig. 1. *Callistemon genofluvialis*: a flowering branch, x0.5; b bud x0.5; c fruiting branch x0.5.

grows both in and well above the water as a chasmophyte, although those plants situated above normal river flow are inundated during periods of high flood. *Callistemon subulatus* Cheel is fairly common in the region, and the plant from which the type of *C. forresterae* was collected grows nearby. Flowers late winter–late spring, sporadically in autumn.

Conservation Status

2V (Briggs and Leigh 1989).

Etymology

The specific epithet alludes to the locality, the Genoa River, from which this taxon was collected.

Notes

While *C. genofluvialis* shares some leaf characters with *C. sieberi*, namely general size range, an often irregular and dense arrangement and an often asymmetry of shape, it differs in habit and trunk number, bark, flower colour and seed capsule. It is similar to *C. pallidus* in that both species have a number of trunks and loose papery bark, but differs in habit, leaf shape and arrangement, and in flower colour. With *C. forresterae* it (occasionally ) shares the character of multiple trunks, dark oil glands evident on both leaf surfaces, and filaments in the reddish-purple group, but differs in habit, bark, leaf colour, arrangement and size. Further comparative data is included in Table 1.

Table 1. Diagnostic features of *Callistemon genofluvialis*, *C. sieberi*, *C. pallidus* (regional form) and *C. forresterae*

Character	<i>C. genofluvialis</i>	<i>C. sieberi</i>	<i>C. pallidus</i> (regional form)	<i>C. forresterae</i>
Habit	spreading shrub, ends of branches weeping	upright shrub	upright shrub	upright shrub
Height (m)	2–2.5	c. 4	c. 3.5	c. 2
Width (m)	1.8–2.5	1.5–2	c. 1.5	c. 1
Trunks	numerous	mostly single	many	single to few
Bark	tight, papery with small loose patches	hard, interwoven	papery, loose, peeling	tight, papery
<i>Leaf</i>				
Arrangement	often irregular and dense	often irregular and dense	irregular and open	mostly regular and dense
Orientation	to c. 60°	to c. 70°	to 75°	to c. 45°
Length (mm)	17–80 mm	20–80 mm	45–90 mm	22–55 mm
Width (mm)	3–8.5 mm	1.5–9 mm	8–14 mm	2.5–5 mm
Colour	mid-green	grey-green	mid-green	light green
Oil glands	dark, numerous on both surfaces, emitting a peppermint- eucalyptus-like aroma when crushed	absent	numerous on upper surface, emitting an apple-like aroma when crushed	dark, scattered on both surfaces, emitting a light peppermint aroma when crushed
Petiole	mostly straight	straight or twisted	variously twisted	mostly twisted

Table 1. Continued

Character	<i>C. genofluvialis</i>	<i>C. sieberi</i>	<i>C. pallidus</i> (regional form)	<i>C. forresterae</i>
<i>Conflorescence</i>				
Orientation	drooping, less often slightly ascending	mainly upright, sometimes ascending	mainly upright, sometimes ascending	upright or ascending, seldom drooping
Length (mm)	60–105 mm	30–50 mm	40–75 mm	60–120 mm
Width (mm)	50–68 mm	25–30 mm	30–45 mm	38–50 mm
Colour	reddish-purple (RHS 58A)	cream, less often pale pink	cream to creamy-yellow	mauve (RHS 66B)
<i>Capsule</i>				
Shape	squat, eventually truncate	squat	compressed	squat, often truncate
Texture	woody	papery	woody	woody
Width (mm)	6–9 mm	4–6 mm	5–6 mm	5–8 mm
Length (mm)	5–6 mm	3 mm	2.5–3 mm	4–6 mm

Discussion

In Molyneux (1995, p. 382), I extended the known range of *Callistemon forresterae* by recording a number of smallish populations in the lower and middle reaches of the Genoa River in East Gippsland. During November 1995, while investigating other sections of the Genoa River in Victoria, and Imlay Creek in New South Wales, further populations of *C. forresterae* were recorded. In all cases, *C. subulatus* was well represented in the area.

The Genoa River population of *C. forresterae* had about 100 plants, erect in habit to c. 1.8 m tall, often intermixed with c. 75 plants of *C. subulatus*, which were (mostly) smaller in habit to 1.3 m tall and wide. Also present were a few of what appeared to be intermediate specimens, both in flower colour, leaf shape and habit; as was a scattering of *C. pallidus* to 2.1 m tall. All were growing in rock, or sand in rock, on the east bank of the river.

On Imlay Creek, below the Wallagaraugh River Track, there is a population of c. 50 *C. forresterae*. Here they are c. 2 m tall and 1 m wide, growing on a rock island in the middle of the river, in association with *C. subulatus*. A number of callistemons here bear further investigation, including the mauve-flowered taxon referred to as *C. pallidus* ‘Mauve’ in nursery catalogues. Willis (1972) refers to a form with rosy-lilac filaments at the Avon Channels in Gippsland. It also occurs on the Genoa River, and I have collected it elsewhere on the Cann River Highway, and at the Avon Channels.

In Molyneux (1995, p. 379), I named *C. kenmorrisonii* from one population on the Betka River downstream from the Stony Peak Road bridge in East Gippsland. During November 1995, I located a further population of c. 60 plants to c. 1.8 m tall and 2 m wide growing on granite in the Betka River at the Roger Track crossing. This new locality is c. 4.5 km downstream from the type locality. The only other callistemon nearby was *C. citrinus*, which grows in moist sands at the edge of rock bars above the river, and in moist forest nearby. The discovery of this second uniform and substantial population of *C. kenmorrisonii*, as well as the stability indicated through sexual reproduction from the type site, should dispel any doubts that may have existed regarding the status of this species.

Also in Molyneux (1993, p.63), I discussed an incorrect reference in Willis (1973, p. 451) to *C. subulatus* at Nowa Nowa, central East Gippsland. The mistake was mine,

not Willis's. In 1995, I located scattered plants of a *Callistemon* taxon in the region with an undoubted affinity to *C. subulatus*. While it bears a resemblance to this species, this taxon, which grows on Boggy Creek, has characters which exhibit considerable differences. Cheel (1925) described the leaves of *C. subulatus* as having a somewhat obscure, slightly channelled midvein on the lower surface. The Boggy Creek taxon has a strongly raised midvein on the lower surface as well as distinct intermarginal veins.

The alignment of leaves of *C. subulatus* has the upper surface more or less facing towards the stem, and in juvenile leaves in particular, distinctly curved backwards from the stem. The petiole of the Boggy Creek taxon is mostly distinctly twisted, causing leaves to be edge-on or distinctly angled to stems. The buds of *C. subulatus* are considerably smaller than the Boggy Creek taxon, and fruits are of a different size and shape. The habit of this taxon is more upright and less spreading than *Callistemon subulatus*, which is often as wide or wider than high.

Future workers on *Callistemon* should check all specimens under *Callistemon subulatus*. Remarks by Cheel (1925) concerning variations in Gippsland specimens may refer to collections of *Callistemon forresterae* (and possibly other species).

### Acknowledgments

Thanks are given to Neville Walsh for supplying the Latin diagnosis, and for assistance with a suitable epithet; and to Sue Forrester for preparation of manuscript onto disc, and for the illustration.

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Manuscript received 4 September 1996, accepted 20 November 1996